

INTERNATIONAL SEARCH REPORT

International Application No
PCT/US 99/10195

A. CLASSIFICATION OF SUBJECT MATTER
IPC 6 G01N21/35 G01J3/28

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 6 G01N G01J

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 448 069 A (TOBLER HANS ET AL) 5 September 1995 (1995-09-05)	1, 6, 7, 9-23, 27-30, 33-35, 38, 39 2-5, 24; 25
A	column 1, line 15 - line 20 column 2, line 43 - line 64 column 4, line 60 - column 5, line 21 column 6, line 13 - line 51 column 7, line 46 - line 51 column 8, line 54 - column 9, line 38 figures 6-8 --- -/-	

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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- "P" document published prior to the international filing date but later than the priority date claimed

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"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

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"&" document member of the same patent family

Date of the actual completion of the international search

2 August 1999

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Name and mailing address of the ISA
European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl.
Fax: (+31-70) 340-3016

Authorized officer

Jacquin, J

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PCT/US 99/10195

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 4 400 086 A (WEBSTER DONALD R) 23 August 1983 (1983-08-23)	1-3,6,7, 9-15, 17-24, 27,28, 33,35, 38,39
A	column 1, line 52 - column 2, line 5 column 2, line 57 - column 3, line 40 column 5, line 7 - line 15 figures 1,2,6	4,5,10, 16,25, 29-32, 34,36,37
Y	US 5 040 889 A (KEANE THOMAS J) 20 August 1991 (1991-08-20)	1-3,6,7, 9-15, 17-24, 27,28, 33,35, 38,39
A	column 1, line 27 - line 59 column 3, line 31 - line 53 figures 1,2	
A	US 5 241 178 A (SHIELDS JOHN) 31 August 1993 (1993-08-31)	1-7,14, 15, 21-24, 27-30, 33-39
	column 1, line 10 - line 39 column 2, line 15 - line 45 column 3, line 34 - line 48 figures 1,4,5	
A	US 5 038 040 A (FUNK ROBERT C ET AL) 6 August 1991 (1991-08-06) column 1, line 5 - line 24 column 3, line 25 - line 36 figures 1,2	8,26

INTERNATIONAL SEARCH REPORT

Information on patent family members

national Application No

PCT/US 99/10195

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 5448069	A	05-09-1995	SE 468334 B AT 142787 T WO 9218864 A CN 1079050 A DE 59207108 D DE 69226000 D DE 69226000 T DK 539537 T EP 0511184 A EP 0539537 A ES 2092680 T RU 2092817 C SE 9101220 A US 5308981 A US 5406084 A	14-12-1992 15-09-1996 29-10-1992 01-12-1993 17-10-1996 30-07-1998 05-11-1998 17-02-1997 28-10-1992 05-05-1993 01-12-1996 10-10-1997 24-10-1992 03-05-1994 11-04-1995
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IPC 6 A01F A01D G01J

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C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No
E	US 5 751 421 A (HOOD C FRED ET AL) 12 May 1998 see the whole document	1-10
A	WO 92 15192 A (GERRISH STEVEN R) 17 September 1992 see claims 1-5, 21-24, 44	1, 4, 9, 10
A	US 5 406 084 A (TOBLER HANS ET AL) 11 April 1995 see column 5, line 47 - column 6, line 24	1, 2, 8-10
A	US 4 752 689 A (SATAKE TOSHIHIKO) 21 June 1988	
A	WO 85 00087 A (DRONNINGBORG MASKINFAB AS) 17 January 1985	

☐ Further documents are listed in the continuation of box C.

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Name and mailing address of the ISA

European Patent Office, P.O. 5816 Patentplan 2
 NL - 2280 HV Rijswijk
 Tel: (+31-70) 340-2040, Tx: 31 651 epo nl,
 Fax: (+31-70) 340-3016

Authorized officer

De Lameilleure, D

INTERNATIONAL SEARCH REPORT

Information on patent family members

In International Application No

PCT/US 98/05105

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